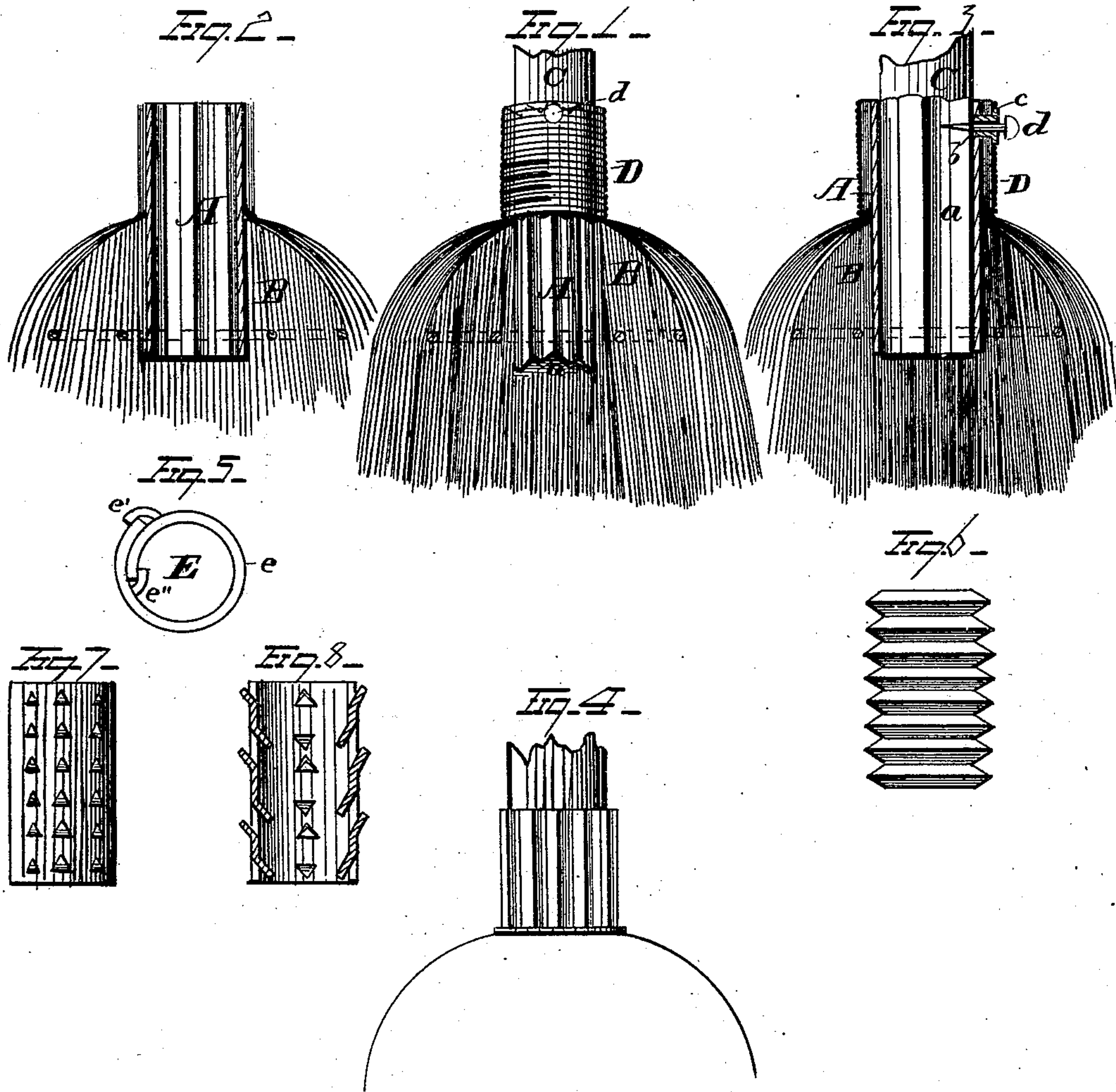


S. M. BARRETT.  
BROOM AND BRUSH.

No. 187,346.

Patented Feb. 13, 1877.



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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN BROOMS AND BRUSHES.

Specification forming part of Letters Patent No. **187,346**, dated February 13, 1877; application filed January 3, 1877.

*To all whom it may concern:*

Be it known that I, SILAS M. BARRETT, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Brooms or Brushes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in brooms and brushes. Brooms, as ordinarily manufactured, are defective in construction, owing to the fact that the broom-corn, when applied to the wooden handle, must be dampened in order to secure the same to the handle, and when the broom-corn becomes dry, the consequent shrinkage causes the corn to become loose on the handle, and thereby seriously impair the wear of the broom. Again, it is impossible to export brooms of ordinary make in compact form, as the handles are securely attached to the broom-heads, thereby necessitating the employment of unduly bulky cases, and heavy freight-bills are thus incurred.

The object of my invention is to provide brooms, whisk-brooms, and brushes of such a construction that the broom-corn or other material may be firmly secured to a tube or sleeve independent of the handle; and to that end my invention consists, first, in an expansible sheet-metal tube or sleeve, upon which the broom-corn or other material is firmly secured by twine or wire, metal ring, or similar device, and expanded by driving the handle downwardly into said sleeve or tube; second, in a corrugated sleeve or tube adapted to be expanded as the broom-handle is driven therein, whereby the broom-corn is firmly secured between the sleeve and twine or wire by means of which it is bound to the tube; third, the combination, with a perforated expansible sheet-metal tube, of an eyelet and a screw or rivet, the latter serving to secure the free end of the wire or cord, and also securing the tube to the handle; fourth, the combination, with a handle constructed with a wedge-shaped end, of the broom-head

formed on an expansible sheet-metal tube; fifth, in certain details of construction, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 represents a perspective view of my improved broom, having a portion of the head cut away to show my improvement as applied thereto. Fig. 2 shows a vertical section of the broom-head before the handle has been inserted therein. Fig. 3 represents a vertical section of the broom-head and handle. Fig. 4 is a side elevation of my improved broom provided with its outer cap. Figs. 5, 6, 7, and 8 show modified forms of sleeves or tubes.

A represents a sheet-metal tube or sleeve, which is preferably made of zinc, to insure against corrosion, and the consequent discoloration of the broom-corn, though the tube may be constructed of any desired material. Tube A is corrugated longitudinally, and the broom-corn is secured against its exterior surface by means of twine, wire, or in any desired manner. After the broom-head B is completed, and the broom-corn permanently secured to the tube A, the wedge-shaped end *a* of handle C is inserted and downwardly driven into the tube A. This operation serves to expand the tube A, and firmly bind the ends of the broom-corn between the tube and wire or twine by which it is secured. The upper end of tube A is perforated at *b* for the reception of an eyelet, *c*, which latter, being inserted therein, serves as a bearing for a rivet or screw, *d*. The eyelet *c* serves as a fastening device for the free end of the outer wire D, the end of which is twisted about said eyelet and firmly secured thereto. In order to secure the handle against possible accidental disengagement from the broom-head, a rivet or screw, *d*, is inserted in the eyelet *c*, and fastened to the handle. Instead of employing a longitudinally-corrugated sleeve, A, a split sleeve, E, (shown in Fig. 5,) may be used to effect the same result. Sleeve or tube E is constructed with a plain body, *e*, and provided with inwardly and outwardly projecting points *e'* *e''*, which latter serve as stops to limit the minimum size of the tubes, in order that the tube will be practically rigid, as the corn is bound thereto. When the handle



is inserted in tube E, it will expand and operate to bind the broom-corn securely against its exterior surface. The tube E may be split and formed with transverse corrugations *f*, as shown in Fig. 6, whereby the corn may be more firmly bound to the same, and longitudinal displacement provided against thereby.

Figs. 7 and 8 represent expansible or split sheet-metal tubes, formed with outwardly and inwardly projecting spurs, for the more firm attachment of the broom-corn and handle. An outward cap or shield, F, formed with a longitudinally corrugated body, and a lower outwardly-turned flange, *g*, may be placed over the binding wire or twine, as shown in Fig. 4, and when the handle is driven into the inner expansible tube, the outer cap will be firmly secured to the fastened end of the head. This cap is not an essential element of the broom, but it serves to protect the parts used in fastening the corn to the tube and handle, and adds to the appearance of the finished broom. Brooms constructed in accordance with my invention are especially adapted to supply the demands of the trade, as the broom-heads may be made complete in themselves and sold to dealers, while the handles may be furnished by parties engaged in the manufacture of wooden-ware.

These brooms are also especially adapted for exporting, as the handles and broom-heads may be packed separately and compactly, and the purchaser can readily combine the handle and head, in the manner hereinbefore set forth, thus economizing largely in freightage.

It is evident that the expansible metallic sleeves are equally adapted for use in the manufacture of brushes, and the same advantageous results will follow such use.

I do not limit myself to the exact construction of parts shown and described, as it is evident that many modifications might be made without departing from the spirit of my invention.

In order to strengthen the outer fastening-wire and prevent breakage of any strand, and also prevent the wire slipping around on the corn, several strands may be soldered together, as indicated by the heavy lines in Fig. 1.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the handle and

head of a broom or brush, of an expansible sheet-metal tube or sleeve, the same constructed to be expanded as the handle is driven therein, substantially as and for the purpose set forth.

2. The combination, with the handle and head of a broom or brush, of a corrugated sheet-metal tube or sleeve, the same constructed to be expanded as the handle is driven therein, substantially as and for the purpose set forth.

3. The combination, with the handle and head of a broom or brush and a perforated expansible sheet-metal tube or sleeve, of an eyelet and a rivet or screw, whereby the binding wire or twine and the tube and handle are secured, substantially as and for the purpose set forth.

4. The combination, with the broom-head, formed upon and firmly secured to an expansible sheet-metal tube or sleeve, of a broom-handle constructed with a wedge-shaped end, substantially as and for the purpose set forth.

5. The combination, with the handle and head of a broom or brush, of an expansible zinc tube or sleeve, substantially as and for the purpose set forth.

6. The combination, with the handle and head of a broom or brush, of a longitudinally-corrugated zinc tube or sleeve, substantially as and for the purpose set forth.

7. The combination, with the handle and head of a broom or brush, of an inner expansible sheet-metal tube or sleeve, and an expansible cap or socket, substantially as and for the purpose set forth.

8. The combination, with the handle and head of a broom, of an expansible socket or cap to protect the fastening parts of the broom, substantially as and for the purpose set forth.

9. The combination, with the handle and head of a broom or brush, of a longitudinally-corrugated socket having a lower outwardly-turned flange, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 28th day of December, 1876.

SILAS M. BARRETT.

Witnesses:

F. I. BILLINGS,  
H. A. BARRETT.